

AMENDMENTS TO THE CLAIMS:

1. (currently amended) A plasticized sealant against diffusion of oxygen, the sealant consisting essentially of a thermoplastic elastomer free of ~~adhesive properties~~ tackiness selected from the group consisting of (a) an at least partially hydrogenated [[a]] polyblock copolymer of a vinylaromatic compound and a conjugated diene, ~~optionally hydrogenated so~~ as to include a block of a mono(lower)olefin, the olefin having from 2 to 4 carbon atoms, and, (b) a thermoplastic vulcanizate, ~~each~~ (a) having uniformly distributed therewithin, from 5 to 150 phr, based on 100 parts by weight of (a), of a polymono(lower)olefin [[,]] having a melt index in the range from 0.2 to 200 gm/10 min at 230°C and 2.16 Kg load, combined with from zero to an equivalent amount by weight of a mono(lower)olefinic rubber having Mn greater than 200,000, and a liquid polyisobutene oil plasticizer having a number average molecular weight ("Mn") in the range from 200 to 6000, fluidizable under melt-blending conditions of (a) and (b), the polyisobutene selected from the group consisting of (i) a homopolymer of polyisobutylene and (ii) a copolymer of isobutene and butene, butene repeating units being present in a minor molar proportion; the amount of polyisobutene oil being sufficient to provide the ~~elastomeric product~~ plasticized sealant with a hardness in the range from Shore A 40 to 80 and an oxygen-permeability less than 20,000 cc. (2.54µm)/m².day.atm at 23°C; and, (a) having Mn in the range from about 40,000 to 1,100,000 and (b) having a Shore A hardness in the range from 30 to 100, tensile strength at 100% elongation in the range from about 0.5 to 10 MPa and specific gravity in the range from 0.9 to 0.99.
2. (previously presented) The sealant of claim 1 having ~~a hardness in the range from Shore A 40 to 80 and~~ a thickness in the range from 0.1 mm to 10 mm [[,]] ~~and (a) is at least partially hydrogenated.~~
3. (canceled)
4. (previously presented) The sealant of claim 2 wherein the elastomer is (a) and the sealant has distinct Tgs for each of three phases, attributable to (a) a vinylaromatic

hydrocarbon phase, (b) a conjugated diene, optionally hydrogenated, phase, and (c) a polyolefin phase.

5. (canceled)

6. (currently amended) The sealant of claim 1 wherein the elastomers (a) and (b) have homogeneously distributed therewithin, from 20 to 180 phr of ~~polybutene~~ polyisobutene, based on 100 parts by weight of (a) or (b), including in addition from 1 to 5 phr, based on 100 parts by weight of (a) or (b), of an additive selected from the group consisting of a non-reinforcing non-reactive filler, stabilizer, processing aid, antiblocking aid, antistatic agent, wax, foaming agent, pigment, and flame retardant.

7. (previously presented) The sealant of claim 1 wherein (a) is a block copolymer having vinylaromatic end-blocks and a mid-block selected from the group consisting of polyisoprene, polybutadiene, and hydrogenated copolymers thereof, having blended therein from 30 to 100 phr of polybutene, based on 100 parts by weight of (a), and a compatible amount, from 1 to about 20 phr of a detackifier per 100 parts by weight of (a).

8. (previously presented) The sealant of claim 7 wherein (a) is a triblock copolymer, the vinylaromatic end-blocks are polystyrene, and the mid-block is selected from the group consisting of poly(isoprene) and poly(butadiene), and hydrogenated forms thereof in heterogeneous relative order, including styrene-ethylene-butylene-styrene.

9. (previously presented) The sealant of claim 8 wherein the vinylaromatic end-blocks are polystyrene and the mid-block is selected from the group consisting of polyisoprene and polybutadiene; and the detackifier is selected from the group consisting of a silicone oil and an epoxidized vegetable oil.

10. (currently amended) The sealant of claim 6 wherein the polyisobutene is present in an amount from about 30 to 100 phr respectively, per 100 parts of (a) or (b).

11. (previously presented) The sealant of claim 8 having a oxygen-permeability in the range from about 2,000 to 20,000 cc. (2.54 μ m)/m².day.atm at 23°C.
12. (canceled)
13. (previously presented) The sealant of claim 8 wherein (a) has a number average molecular weight in the range from about 70,000 to about 500,000.
14. (previously presented) The sealant of claim 8 wherein (b) has a number average molecular weight in the range from about 70,000 to about 500,000.
15. (previously presented) The sealant of claim 1 wherein (b) is a blend of polypropylene and ethylene-propylene diene monomer rubber having blended therein from 20 to 180 phr of polyisobutene, based on 100 parts by weight of (b), and a compatible amount, from 1 to about 20 phr of a detackifier per 100 parts by weight of (b).
16. (currently amended) A closure means ~~comprising~~ consisting essentially of an elastomeric sealing element free of ~~adhesive properties~~ tackiness having a thickness in the range from about 0.1 mm to about 10 mm, held in removably sealing relationship ~~with~~ within the closure means, for sealing a container against permeation of an oxygen-containing gas, wherein the sealing element consists essentially of an elastomer selected from the group consisting of (a) an at least partially hydrogenated polyblock of a vinylaromatic compound and a conjugated diene polyblock-copolymer, optionally hydrogenated so as to provide a block of a mono(lower)olefin, the olefin having from 2 to 4 carbon atoms, and, (b) a thermoplastic vulcanizate, each (a) having uniformly distributed therewithin, from 5 to 150 phr, based on 100 parts by weight of (a), of a polymono(lower)olefin [,] having a melt index in the range from 0.2 to 200 gm/10 min at 230°C and 2.16 Kg load, combined with from zero to an equivalent amount by weight of a mono(lower)olefinic rubber having Mn greater than 200,000, and a liquid polyisobutene oil plasticizer having a number average molecular weight ("Mn") in the range from 200 to 6000, fluidizable under melt-blending conditions of (a) and (b), present

in an amount in the range from about 30 to 150 phr, per 100 parts of (a) or (b), the polyisobutene selected from the group consisting of (i) a homopolymer of polyisobutylene and (ii) a copolymer of isobutene and butene, butene repeating units being present in a minor molar proportion;

the amount of polyisobutene oil being sufficient to provide the elastomeric ~~product~~ sealing element with a hardness in the range from Shore A 40 to 80 and an oxygen-permeability less than 20,000 cc. (2.54 μ /m².day.atm at 23°C;

(a) having Mn in the range from about 40,000 to 1,100,000; and,

(b) having a Shore A hardness in the range from 30 to 100, tensile strength at 100% elongation in the range from about 0.5 to 10 MPa and specific gravity in the range from 0.9 to 0.99.

17. (previously presented) The closure means of claim 16 wherein (a) is a triblock copolymer having vinylaromatic end-blocks and a mid-block selected from the group consisting of polyisoprene, polybutadiene, poly(lower)olefin, and a hydrogenated copolymer thereof; and the sealing element ~~has a hardness in the range from about Shore A 40 to 80, and~~ includes from about 1 to 20 phr of a detackifier.

18. (original) The closure means of claim 16 wherein the sealing element is light-permeable.

19. (canceled)

20. (original) The closure means of claim 16 wherein the closure means is a bottle cap and the container is a bottle.

21. (original) The closure means of claim 16 wherein the closure means is a stopper and the container is a bottle.

22. (currently amended) A method for providing an essentially oxygen-impermeable elastomeric sealing element free of ~~adhesive properties~~ tackiness comprising blending an elastomer selected from the group consisting of (a) an at least partially hydrogenated

polyblock of a vinylaromatic compound and a conjugated diene polyblock copolymer, optionally hydrogenated so as to provide include a block of a mono(lower)olefin, the olefin having from 2 to 4 carbon atoms, and, (b) a thermoplastic vulcanizate, wherein (a) and (b) each have has uniformly distributed therewithin, from 5 to 150 phr, based on 100 parts by weight of (a), of a polymono(lower)olefin [[,]]
having a melt index in the range from 0.2 to 200 gm/10 min at 230°C and 2.16 Kg load, combined with from zero to an equivalent amount by weight of a mono(lower)olefinic rubber having Mn greater than 200,000, and
a liquid polyisobutene oil plasticizer having a number average molecular weight ("Mn") in the range from 200 to 6000, fluidizable under melt-blending conditions of (a) and (b), present in an amount in the range from about 20 to 180 phr, per 100 parts by weight of (a) or (b), the polyisobutene selected from the group consisting of (i) a homopolymer of polyisobutylene and (ii) a copolymer of isobutene and butene, butene repeating units being present in a minor molar proportion; and,
thermoforming a seal having a hardness in the range from about Shore A 40 to 80 and an oxygen permeability less than 20,000 cc. (2.54μm)/m².day.atm at 23°C.

23. (canceled)

24. (canceled).